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## INFORMATION REPORT INFORMATION REPORT

## CENTRAL INTELLIGENCE AGENCY

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COUNTRY Bulgaria

REPORT

SUBJECT The Bukhovo Uranium Mines

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This is UNEVALUATED Information

SOURCE EVALUATIONS ARE DEFINITIVE APPRAISAL OF CONTENT IS TENTATIVE

1. The Bukhovo uranium mines are located approximately three kilometers north of Bukhovo and 25 kilometers northeast of Sofia. (CS)
2. As of February 1956 the following personnel were employed at the Bukhovo uranium mines: 25X1
  - a. Mining engineers: 7 Soviets and 4 Bulgarians;
  - b. Geologists: 6 Soviets and 1 Bulgarian geophysicist;
  - c. Chemical engineers: 9 Soviets and 3 Bulgarians;
  - d. Apprentice geologists: 14 Bulgarians;
  - e. Specialists in the Mark-Schneider apparatus (a theodolite): 18 Bulgarians;
  - f. Specialists for measuring the degree of radioactivity: 16 Bulgarians; 25X1
  - g. Mining technicians: 16 Bulgarians;
  - h. Skilled miners: 140 Bulgarians; 25X1
  - i. Nonskilled miners: 280 Bulgarians; 25X1
  - j. Workers: 1,280 Bulgarians; and 420 soldiers who work in part as ordinary laborers and in part as skilled workers; 25X1
  - k. Office employees: 100 Bulgarians; and
  - l. Drivers, mechanics, and packers: 140 Bulgarians. 25X1

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| STATE  | X | ARMY | X | NAVY | X | AIR | X | FBI | AEC | X | OSI | Ev | ORR | Ev |
| (Note: Washington distribution indicated by "X"; Field distribution by "#".) |   |      |   |      |   |     |   |     |     |   |     |    |     |    |

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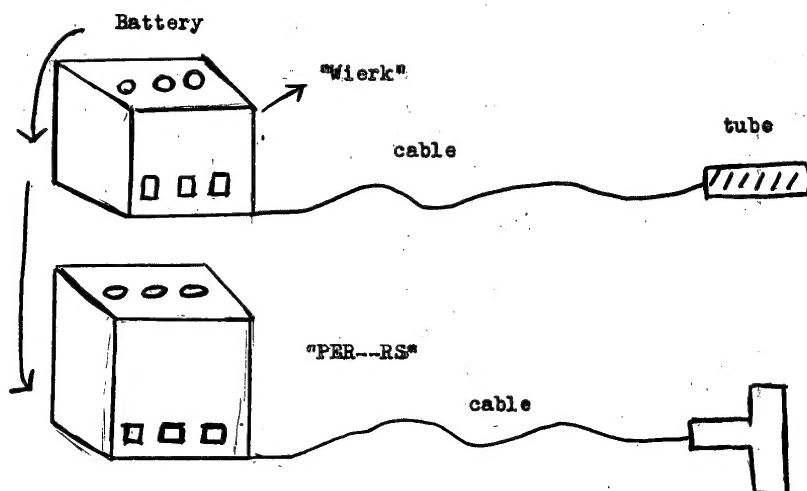
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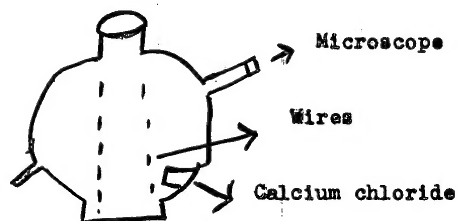
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3. Work in the Bukhovo uranium mines is in three shifts of eight hours each.
4. The uranium ore is examined with special apparatus known as "Wierk" and "PER--RS." These apparatus are in continuous operation at every 30 and 50 centimeters in the entire mining area. The sketch below shows the "Wierk" and the "PER--RS" apparatus:



5. Radio activity is determined in the following manner by means of an apparatus known as "Gamma" which is reproduced in the sketch below. In the "Gamma" apparatus, which is made of copper and iron, there is installed a microscope and a small quantity of calcium chloride.



6. The ore is examined to determine its uranium content and then is divided into first, second and third grade ore. On the basis of this grading it is carried through wooden conduits and loaded onto trucks and transported to the point shown as number 109 on the sketch (attached to this report), where a check is made. At this point the quality of the ore is checked a second time, after which it is carried to the mills (number 15 in sketch), where a final check is made. In the mills the ore is worked according to its grade. The ore is then mixed with sulphuric acid and placed into large containers where the mixture remains for 14 days, after which it undergoes steam pressure and is then sifted. What remains, following this operation, is placed in special metal containers which

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are hermetically sealed. The containers which hold first-grade uranium are loaded on aircraft at the Bozhurishte Airfield and transported immediately to the USSR. The containers holding second- and third-grade uranium are transported by heavily escorted trains to Varna where they are loaded on special ships and sent to the USSR.

7. Guarding the entrance to each mine is a militiaman who is relieved every four hours. At points number 14 and number 16 on the attached sketch there are six militiamen on guard. The entire area is guarded at every 300 meters by an armed militiaman, carrying a German 7.62 caliber automatic rifle.
8. Every engineer, laborer, driver, miner, office employee, etc., has a special permit with which he can move around only in the area in which he actually works.
9. Informant knew of the following specialists working at the Bukhovo uranium mines:
  - a. Chief Engineer, the Soviet Bobrov, fnu; lives in Sofia and drives a "Pobeda" Soviet car;
  - b. Second Engineer, the Soviet Pirshinov, fnu; lives at the "Slavyanska Hotel" and drives a "Pobeda" car;
  - c. Third Engineer, the Soviet Aleksandrov, fnu; lives at the "Slavyanska Hotel" and drives a "Zis" car;
  - d. Fourth Engineer, the Bulgarian Kumbarev, fnu; lives in Sofia at 6 Shipka Street;
  - e. Fifth Engineer, the Bulgarian Topolev, fnu; lives in Sofia;
  - f. Chemical Engineer, the Soviet Sashkin, fnu; lives in Sofia at 22 Lenin Street and drives a "Zis" car;
  - g. Second Chemical Engineer, the Soviet Orlov, fnu; lives in Sofia at 37 Bonyarska Street and drives a "Zis" car;
  - h. Third Chemical Engineer, the Bulgarian Ivan Krivov Krushev; lives at 28 Voroshlova Street in Sofia;
  - i. The geologist, Mitofanov, fnu, a Soviet; lives at 11 Moskovska Street in Sofia; and
  - j. The geophysicist, Petrishyan, a Soviet; lives at 17 Moskovska Street in Sofia.
10. The uranium mines of Bukhovo are equipped with the following transportation facilities:
  - a. Twenty-two "Zis" trucks;
  - b. Eighteen "Skoda" trucks;
  - c. Eight "Diesel" trucks;
  - d. Three "Pobeda" busses;
  - e. Twenty-one "Zis" busses;

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- f. Four "Skoda" busses;
  - g. Three German busses;
  - h. Three "Skoda" trucks for transporting personnel;
  - i. Two mobile pumps of German manufacture; and
  - j. Three "Skoda" ambulances.
11. The following legend refers to a sketch attached to this report:
- 1) The Sofia-Bukhovo-Makotsevo railway line;
  - 2) Village and station of Yana; Yana is the station from which uranium is shipped to the USSR;
  - 3) Station of Yana; a small station composed of a two-story building, 15 x 8 meters in size; the Yana Station includes two through railway tracks and two siding tracks;
  - 4) Depot for miners' working implements, 30 x 10 meters in size and two stories high;
  - 5) Militia building where persons going in the direction of the mine are checked;
  - 6) Depot for uranium from which the material is shipped by rail to Varna and then by sea to Odessa;
  - 7) Yana-Gorni Bogrov road;
  - 8) Gate at which the militiamen check passes and identification cards of all persons passing through; these documents are needed by all persons entering the village of Bukhovo;
  - 9) Village of Bukhovo, center of the mining area, located approximately 3.5 kilometers north of Yana;
  - 10) Bukhovo-Butunets road;
  - 11) Bukhovo-Sveti Angel Convent road;
  - 12) General Directorate of the Bukhovo mines, a two-story building 25 x 10 meters in size;
  - 13) Baths for the personnel of the Bukhovo mines;
  - 14 and 15) Plant for processing the uranium;
  - 16) Wooden conduit for transporting third-grade uranium to the mills;
  - 17) Wooden conduit for transporting second-grade uranium to the mills;
  - 18) Wooden conduit for transporting first-grade uranium to the mills;
  - 19) Machine shop and garage; the machine shop is 20 x 10 meters in size and two stories high; the garage is 70 x 8 meters in size and two stories high;

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- 20) Food warehouse composed of two buildings, two stories high, each 35 x 8 meters in size;
- 21) Gasoline depot for the use of trucks; has a capacity of approximately 10,000 liters;
- 22) Sleeping quarters for miners with families; a three-story building 40 x 10 meters in size;
- 23) Sleeping quarters for drivers and mechanics; a two-story building, 40 x 10 meters in size;
- 24) Sleeping quarters for miners; a three-story building, 20 x 10 meters in size;
- 25) Movie theater, library and auditorium; a two-story building, 30 x 10 meters in size;
- 26) Living quarters for employees; a three-story building for office employees, a three-story building 30 x 10 meters in size;
- 27) Militia of Bukhovo;
- 28) Road leading from Bukhovo to the mines, located approximately three kilometers away;
- 29) Local road running up and down hill between the uranium mines;
- 30) Sleeping quarters for miners; three-story building, 25 x 10 meters in size;
- 31) Uranium mine which has existed since 1949 and produces the least amount of uranium;
- 32) Wooden conduit for the transportation of third-grade uranium;
- 33) Wooden conduit for the transportation of first-grade uranium;
- 34) Wooden conduit for the transportation of second-grade uranium;
- 35) Small railway line which runs between the mine and the wooden conduits;
- 36) Parking area for trucks used for transporting ore;
- 37) The "Borshe" uranium mine; this mine has been in operation since 1948; it has various tunnels within it; uranium in this mine is a green crystal-like uranium; the ore (rocks and earth) is red and green; this mine produces second- and third-grade uranium at the rate of 54 tons of uranium ore every 24 hours;
- 38) Small railway line which runs between "Borshe" mine and the wooden conduits;
- 39) Conduits for the transportation of third-grade uranium;
- 40) Conduits for the transportation of second-grade uranium;
- 41) Conduits for the transportation of first-grade uranium;
- 42) Unknown;

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- 43) Uranium mine, in operation since 1950; produces a green, crystal-like uranium; the uranium ore (rock and earth) is green and red; this mine produces uranium of second and third grade at the rate of approximately 62 tons of ore every 24 hours;
- 44) Small railway line leading from the mine to the transportation conduits;
- 45) Conduits for transportation of first-grade ore;
- 46) Conduits for the transportation of third-grade ore;
- 47) Conduits for the transportation of second-grade ore;
- 48) Parking area for trucks used for transporting ore;
- 49) Uranium mine, in operation since 1950, which produces a green, crystal-like uranium; the ore (rock and earth) is green and reddish; the mine produces approximately 66 tons of ore in each 24-hour period;
- 50) Small lines which lead from the mine to transportation conduits;
- 51) Conduits for transporting third-grade ore;
- 52) Conduits for transporting second-grade ore;
- 53) Conduits for transporting first-grade ore;
- 54) Parking area for trucks used for transporting ore;
- 55) Uranium mine, in operation since 1954, which produces a green, crystal-like uranium; the ore (rock and earth) is green and reddish; the mine produces approximately 54 tons of ore in each 24-hour period; this mine has two tunnels; the rock ore is of first-grade;
- 56) Small railway line leading from the mine to the transportation conduits;
- 57) Conduits for transporting first-grade ore;
- 58) Conduits for transporting second-grade ore;
- 59) Conduits for transporting third-grade ore;
- 60) Parking area for trucks used for transporting ore;
- 61) Uranium mine, in operation since 1949; produces ore of volcanic origin; the mine has two tunnels; from this mine, also, first-grade ore is extracted; the rock ore is black in color;
- 62) Small railway line leading from the mine to the transportation conduits;
- 63) Transportation conduits for first-grade ore;
- 64) Transportation conduits for second-grade ore;
- 65) Transportation conduits for third-grade ore;
- 66) Parking area for trucks used for transporting ore;

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- 67) Uranium mine, in operation since 1954, with one tunnel; uranium ore from this mine is of volcanic origin and black in color; from this mine first-grade rock ore is extracted;
- 68) Small lines leading from the mine to transporting conduits;
- 69) Wooden conduits for transporting third-grade ore;
- 70) Wooden conduits for transporting second-grade ore;
- 71) Wooden conduits for transporting first-grade ore;
- 72) Parking area for trucks used for transporting ore;
- 73) Sleeping quarters for soldiers working in the mines, a three-story building 45 x 10 meters in size; in this building is also located the command of the military units working in the mine area;
- 74) Sleeping quarters for soldiers working in the mines; a three-story building 30 x 10 meters in size;
- 75) A uranium mine, in operation since 1950, with a single tunnel; the rock ore of this mine is not of volcanic origin, but of "uraitshka" origin; the uranium is green and crystal-like; the ore found in rock is green and that in earth is reddish; this mine produces approximately 80 tons of ore in a 24-hour period; rock ore of first grade is also extracted from this mine;
- 76) Small railway line leading to the transportation conduits;
- 77) Transportation conduits for first-grade ore;
- 78) Transportation conduits for second-grade ore;
- 79) Transportation conduits for third-grade ore;
- 80) Parking area for trucks used for transporting the ore;
- 81) Sleeping quarters and officers of the militia of the mine; a three-story 40 x 10 meters in size building;
- 82) Sleeping quarters for miners; a two-story building approximately 35 x 10 meters in size;
- 83) Kitchen, bakery and mess hall; a two-story building 35 x 10 meters in size;
- 84) Sleeping quarters for miners; a three-story building 25 x 10 meters in size;
- 85) Supply room, sleeping quarters, infirmary and workshop; a three-story building 40 x 10 meters in size;
- 86) Sleeping quarters for miners; a two-story building 20 x 10 meters in size;
- 87) Uranium mine, in operation since 1954; the ore at this mine is of volcanic origin and black in color; this mine produces approximately 70 tons of ore in a 24-hour period.

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- 88) Small railway lines leading from the mine to the transportation conduits;
- 89) Conduits for transporting first-grade ore;
- 90) Conduits for transporting second-grade ore;
- 91) Conduits for transporting third-grade ore;
- 92) Parking area for trucks used for transporting ore;
- 93) Open pit mine; the uranium ore at this mine is green and crystal-like; this mine produces 86 tons of ore in each 24-hour period;
- 94) Small railway lines leading from the mine to the transportation conduits;
- 95) Transportation conduits for first-grade ore;
- 96) Transportation conduits for second-grade ore;
- 97) Transportation conduits for third-grade ore;
- 98) Parking area for trucks used in transporting ore;
- 99) Open pit mine; the ore is green and crystal-like; this mine produces 85 tons of ore in each 24-hour period; the mine also produces first-grade ore;
- 100) Small railway lines leading from the mines to the transportation conduits;
- 101) Transportation conduits for first-grade ore;
- 102) Transportation conduits for second-grade ore;
- 103) Transportation conduits for third-grade ore;
- 104) Parking area for trucks used in transporting the ore;
- 105) Sveta Mariya Monastery;
- 106) Road leading from the mines to Seslavtsi;
- 107) Small river; dry in summer;
- 108) Small river; and
- 109) Control post for loading trucks.

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